

IN THE CLAIMS:

1 1. (Original) A manufacturing method for a plasma display panel by which
2 electrodes are formed on a surface of a substrate in a first process and a dielectric glass layer is
3 formed on the electrodes in a second process, the second process comprising:
4 a grinding step for grinding a dielectric glass material;
5 a spheroidizing step for converting each particle of the ground dielectric glass
6 material into a spheroidal form;
7 an applying step for applying a mixture of the spheroidal dielectric glass particles
8 and a binder, as a layer, to the surface of the substrate on which the electrodes are formed; and
9 a firing step for firing the layer to remove the binder from the layer, thereby
10 forming a dielectric glass layer.

1 2. (Original) The manufacturing method of Claim 1,
2 wherein the spheroidizing step is performed by melting the surface of particles of
3 the ground dielectric glass material.

1 3. (Original) The manufacturing method of Claim 2,
2 wherein the melting is performed by putting the particles of the ground dielectric
3 glass material into a plasma jet.

1 4. (Original) The manufacturing method of Claim 2,
2 wherein the melting is performed by exposing the particles of the ground
3 dielectric glass material to an atmosphere at a temperature no higher than the softening point of
4 the particles.

1 5. (Original) The manufacturing method of Claim 1,
2 wherein the spheroidizing step is performed by having the particles of the glass
3 material collide with one another in high-speed gas flows.

1 6. (Original) The manufacturing method of Claim 1,
2 wherein the second process further comprises a step of classifying the glass
3 particles, which is performed between the spheroidizing step and the applying step, so that a
4 maximum diameter of the spheroidal particles of the dielectric glass material does not exceed a
5 half thickness of the dielectric glass layer after the firing step.

1 7. (Original) The manufacturing method of Claim 1,
2 wherein the applying step is performed by placing a dielectric glass sheet on the
3 surface of the substrate, the dielectric glass sheet being obtained by mixing the spheroidal glass
4 particles with a thermoplastic resin.

1 8-14. (Cancelled)

1 15. (New) The manufacturing method of Claim 1, wherein
2 in the firing step, the firing is performed at a temperature in a range of 550°C to
3 590°C.

1 16. (New) The manufacturing method of Claim 2, wherein
2 in the spheroidizing step, the spheroidizing is performed until a surface of more
3 than 90 weight percent of the ground dielectric glass material is melted.

1 17. (New) A manufacturing method for a plasma display panel by which electrodes
2 are formed on a surface of a substrate in a first process and a dielectric glass layer of a
3 predetermined thickness is formed on the electrodes in a second process, the second process
4 comprising:

5 a grinding step for grinding a dielectric glass material selected from a group
6 consisting of PbO-B₂O₃-SiO₂-CaO; PbO-B₂O₃-SiO₂-MgO; PbO-B₂O₃-SiO₂-BaO;
7 PbO-B₂O₃-SiO₂-MgO-Al₂O₃; PbO-B₂O₃-SiO₂-BaO-Al₂O₃; PbO-B₂O₃-SiO₂-CaO-Al₂O₃;
8 ZnO-B₂O₃-SiO₂-Al₂O₃-CaO; P₂O₅-ZnO-Al₂O₃-CaO; and Nb₂O₅-ZnO-B₂O₃-SiO₂-CaO;

9 a spheroidizing step for converting the ground dielectric glass material into
10 spheroidal particles;

11 a selecting step for selecting a maximum diameter of the spheroidal particles to
12 not exceed one half the thickness of the predetermined dielectric glass layer;

13 an applying step for applying a mixture of the selected spheroidal particles and a
14 binder, as a layer, to the surface of the substrate on which the electrodes are formed; and

15 a firing step for firing the layer to uniformly remove the binder from the layer,
16 thereby forming a dielectric glass layer of the predetermined thickness.

1 18. (New) The manufacturing method of Claim 17,
2 wherein the spheroidizing step is performed by melting the surface of more than
3 90 weight percent of the glass particles of the ground dielectric glass material.

1 19. (New) The manufacturing method of Claim 18,
2 wherein the melting is performed by putting the particles of the ground dielectric
3 glass material into a plasma jet having a discharge gas of 10 L/minute and a plasma current of
4 300A.

1 20. (New) The manufacturing method of Claim 19, wherein a firing step temperature
2 is set to enable the binder to burn out before the glass particles reach the softening point to
3 suppress the number of bubbles in the dielectric glass layer.